

ABSTRACT OF THE INVENTION

A communication system. One embodiment includes at least two functional blocks, wherein an first functional block communicates with a second functional block by establishing a connection. A connection is a logical state in which data may pass between the first functional block and the second functional block. One embodiment includes a bus coupled to each of the functional blocks and configured to carry a plurality of signals. The plurality of signals includes a thread identifier that indicates a transaction stream that the data transfer is part of and a busy signal identified by the thread identifier. The busy signal is issued by the target functional block when resources will be unavailable to perform a transfer.